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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,168	10/11/2001	Meng Taing	449511US	1979

22896 7590 04/18/2003

MILA KASAN, PATENT DEPT.  
APPLIED BIOSYSTEMS  
850 LINCOLN CENTRE DRIVE  
FOSTER CITY, CA 94404

EXAMINER

HORLICK, KENNETH R

ART UNIT	PAPER NUMBER
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1637

DATE MAILED: 04/18/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/976,168

Applicant(s)

TAING ET AL.

Examiner

Kenneth R Horlick

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-85 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 11, 14, 59-76 and 78-85 is/are rejected.
- 7) ☒ Claim(s) 4-10, 12, 13, 15-58 and 77 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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1. Claims 78-80 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. These claims are confusing because "the four different labeled nucleoside triphosphates" in claim 78 lacks proper antecedent basis. Correction is required.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 11, 14, 59-68, and 81 are rejected under 35 U.S.C. 102(b) as being anticipated by Bazin et al. (WO 99/18114). As this document is in French, the corresponding U.S. patent 6,340,747 will be referred to as a translation.

These claims are drawn to a nucleobase-anionic linker-fluorescent dye conjugate, including an embodiment wherein the anionic linker comprises a sulfonic acid (sulfonate) moiety; labeled nucleoside triphosphates and polynucleotides comprising such a conjugate are also claimed, as is a method of forming a labeled polynucleotide strand using such a conjugate.

Bazin et al. disclose a nucleobase-linker-fluorescent dye conjugate, including an embodiment wherein the linker comprises a sulfonic acid (sulfonate) moiety, making said linker anionic (see especially columns 3-4, bottom of column 6 through column 8,

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and claim 14 of U.S. patent and equivalent sections of the WO document). The claimed nucleoside triphosphates, polynucleotides, and method are disclosed as well.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 69-76 and 82-85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bazin et al. in view of Tabor et al. (US 4,795,699).

These claims are drawn to mixtures of polynucleotides such as would occur during sequencing reactions, kits useful in sequencing, and methods of sequencing and identifying polynucleotides, using the conjugate as discussed above.

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Bazin et al. disclose an embodiment anticipating the nucleobase-anionic linker-fluorescent dye conjugate of the claims, but do not teach or suggest the use of the conjugate in sequencing applications.

Tabor et al. disclose, as was well known in the art at the time of the invention, that fluorescently-labeled nucleotides were useful in polynucleotide sequencing reactions (see column 4, lines 60-67).

One of ordinary skill in the art would have been motivated to apply the fluorescently-labeled nucleotide of Bazin et al. in polynucleotide sequencing reactions because fluorescent nucleotide conjugates were known to be useful in polynucleotide sequencing, as illustrated by Tabor et al. Thus, it would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to make the claimed mixtures and kits, and to use them in the claimed methods.

4. Claims 4-10, 12, 13, 15-58, and 77 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 78-80 are free of the prior art, but are rejected for other reasons. No claims are allowable.

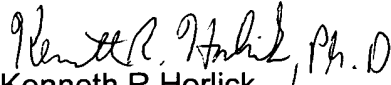
5. Finn et al. and Shiv et al. (WO 01/19841), which are not prior art, are made of record as these teach subject matter which overlaps with the instant disclosure and claims.

6. The following are made of record as references of interest: Rosenblum et al., Hobbs, Jr. et al. (US 5,047,519), Houthoff et al. (US 6,248,531), Haces et al: (WO 93/19078), and Kumar et al. (WO 99/40223).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth R Horlick whose telephone number is 703-308-3905. The examiner can normally be reached on Monday-Thursday 6:30AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on 703-308-1119. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-4242 for regular communications and 703-308-0294 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

  
Kenneth R Horlick  
Primary Examiner  
Art Unit 1637

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April 10, 2003